REMARKS

This Amendment is submitted in reply to the final Office Action mailed on May 3, 2007. No fee is due in connection with this Amendment. The Director is authorized to charge any fees which may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 117682-002 on the account statement.

Claims 1-2, 4-6, 11-12, 14-16 and 18-27 are pending in this application. Claims 3, 7-10, 13, 17 and 28-30 were previously canceled. In the Office Action, Claims 1-2, 4, 6, 11-12, 14, 16 and 18-27 are rejected under 35 U.S.C. §112, first paragraph, and Claims 1-2, 4-6, 11-12, 14-16 and 18-27 are rejected under 35 U.S.C. §103. In response Claims 1, 11, 21, 23 and 25-26 have been amended. These amendments do not add new matter. In view of the amendment and/or for the reasons set forth below, Applicants respectfully submit that the rejections should be withdrawn.

In the Office Action, Claims 1-2, 4, 6, 11-12, 14, 16 and 18-27 are rejected under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. In response, Claims 1, 11, 21, 23 and 25-26 have been amended to recite, in part, an organic peroxide in an amount between 0.1 and 4.5% by weight. The amendment is supported in the specification, for example, at page 11, lines 1-2. Based on at least these noted reasons, Applicants believe that Claims 1-2, 4, 6, 11-12, 14, 16 and 18-27 fully comply with 35 U.S.C. §112, first paragraph.

Accordingly, Applicants respectfully request that the rejection of Claims 1-2, 4, 6, 11-12, 14, 16 and 18-27 under 35 U.S.C. §112 be withdrawn.

In the Office Action, Claims 1-2, 4-6, 11-12, 14-16 and 18-27 are rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent No. 5,756,651 to Chen et al. ("*Chen*") in view of U.S. Patent No. 5,594,095 to Gruber et al. ("*Gruber*") and in view of U.S. Patent No. 6,869,985 to Mohanty et al. ("*Mohanty*") or U.S. Patent No. 5,500,465 to Krishnan et al. ("*Krishnan*"). Applicants believe this rejection is improper and respectfully traverse it for at least the reasons set forth below.

Applicants have amended Claims 1, 11, 21, 23 and 25-26 to recite in part, a composition made from the materials recited in the body of the claims. The amendment is supported in the specification, for example, at page 5, line 6 to page 7, line 24. For example, in embodiments of

the present claims, the present invention relates to a biodegradable plastic in which the degradation results from the action of naturally occurring microorganisms such as bacteria, fungi, and algae. The claimed composition can biodegrade in a short period of time and will pass the tests required by ASTM 6400 D99, which demands that compostable plastic should biodegrade within less than 180 days. In contrast, Applicants respectfully submit that the cited references are deficient with respect to the present claims.

Applicants respectfully submit an Affidavit under 37 C.F.R. §1.132 ("*Affidavit*" attached hereto as Exhibit A) that demonstrates the deficiencies of the cited references with respect to the present claims. As supported by the *Affidavit*, *Chen* and *Gruber* in view of *Mohanty* or *Krishnan* are deficient with respect to the present claims because they teach away from each other and/or the present claims. For example, references must be considered as a whole and those portions teaching against or away from each other and/or the claimed invention must be considered. *Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve Inc.*, 796 F.2d 443 (Fed. Cir. 1986). "A prior art reference may be considered to teach away when a person of ordinary skill, upon reading the reference would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the Applicant." *Monarch Knitting Machinery Corp. v. Fukuhara Industrial Trading Co., Ltd.*, 139 F.3d 1009 (Fed. Cir. 1998), quoting, *In re Gurley*, 27 F.3d 551 (Fed. Cir. 1994).

As supported by the *Affidavit*, *Chen* is entirely directed to a degradable film having excellent flexibility and impact strength for packaging applications, particularly lawn and trash bags. *Chen's* film is a blend of polylactide as the major component along with a degradable impact modifier for increased impact strength and a degradable low molecular weight plasticizer for increased impact strength and flexibility. See, *Chen*, column 3, lines 43-65. *Chen* fails to disclose or suggest as a starting material an organic peroxide ranging from 0.1% and 4.5% by weight of a total composition as required, in part, by the present claims.

Chen also fails to disclose or suggest that the organic peroxide is added to a mixture of poly(lactic acid) and poly(epsilon caprolactone) to produce a final biodegradable film as required, in part, by the present claims. As a result, *Chen* fails to even recognize the advantages and benefits of adding organic peroxide as a starting material in his film and has no reason for doing so because his own formulation already produces a sufficiently flexible and durable film for packaging applications.

As supported by the *Affidavit*, *Gruber* teaches improving certain characteristics of a polylactide polymer composition such as the viscosity, melt strength and rheology specifically for improved use as a coating film. *Gruber* teaches a polylactide polymer composition that is prepared by using polylactide polymer molecules, which have been modified relative to linear non-substituted polylactide, to provide increased molecular interaction among polylactide backbone chains in the composition. See, *Gruber*, column 4, line 54 to column 5, line 23. *Gruber* teaches that the lactide polymers of his invention are melt-stable meaning generally that the lactide polymer, when subjected to melt-processing techniques, adequately maintains its physical properties and does not generate by-products in sufficient quantity to foul or coat processing equipment. See, *Gruber*, column 24, lines 46-60.

Gruber is directed to a non-plasticized formulation having a unique polylactide polymer composition for extrusion coating of paper board. As a result, *Gruber* leads away from a combination with *Chen* because *Gruber* requires different properties and characteristic than degradable films used for packaging applications as taught by *Chen*. For instance, if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.

Gruber also teaches that his polymer composition is made from the polymerization of lactide monomers using a reactant to improve the final polymer, polylactide acid ("PLA"). See, *Gruber*, column 3, lines 20-44 and column 24, lines 19-45. The method of producing the polymer involves forming polylactide molecules in a procedure including a reactant in addition to unsubstituted lactic acid or lactide. The reactant provided includes a non-initiating lactide reactant, an initiating reactant, a combination reactant and/or mixtures thereof. The reactant other than lactic acid or lactide can be an initiating reactant having one initiating group therein. In other words, the compositions described by *Gruber* are part of the creation of a PLA polymer. In contrast to *Gruber*, the claimed invention is directed to using an already existing poly(lactic acid) with additional components. As a result, the skilled artisan would be lead away from the claimed invention by using *Gruber*.

Mohanty and *Krishnan* teach away from a combination with the previously cited references because they utilize peroxides in a completely different manner and for different reasons. As supported by the *Affidavit*, *Mohanty* is directed to polymeric materials for sheet flooring material. The polymeric material includes a conventional PLA based polymer in

combination with a plasticizer and a compatibilizer. Although *Mohanty* teaches that, among many other additives, peroxides can be advantageously added to already polymerized material and, when heated can cause the material to crosslink (see, *Mohanty*, column 8, lines 10-14), *Mohanty* teaches away from a combination with the *Gruber*, which uses peroxides for providing bridging in the linear lactide polymer thereby converting it into a less linear lactide polymer for forming a final PLA polymer composition. See, *Gruber*, column 10, lines 28-30.

As supported by the *Affidavit*, *Krishnan* is directed to producing durable, cost-effective materials that can be used as biodegradable moldings or films, more precisely polyester based polymer compositions comprising a substantial amount of starch incorporated in the blend composition. The polymers have their own unique film forming properties and are resistant to water and moisture. *Krishnan* teaches blends of unmodified starch and a biodegradable polyester, preferably poly-epsilon-caprolactone. See, *Krishnan*, column 4, lines 15-17. According to *Krishnan*, his blend component materials comprise optionally peroxide initiators to cross-link the polyester and improve melt strength. In other words, *Krishnan* solely teaches that poly(epsilon-caprolactone) may be melt-crosslinked by the use of peroxides to improve the melt strength of the blend. As a result, *Krishnan* teaches away from a combination with the *Gruber*, which used peroxides for providing bridging in the linear lactide polymer thereby converting it into a less linear lactide polymer for forming a final PLA polymer composition.

If the proposed modification of the prior art would change the principle of operation of the prior art inventions being modified as would be the case if the cited references were to be combined as proposed by the Patent Office, then the teachings of the references are not sufficient to render the claims prima facie obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959). For at least the reasons discussed above, *Chen* and *Gruber* in view of *Mohanty* or *Krishnan* are deficient with respect to the present claims and do not render obvious Claims 1, 11, 21, 23 and 25-26 and Claims 2, 4-6, 12, 14-16, 18-20, 22, 24 and 27 that depend from Claims 1, 11, 21, 23 and 25-26.

Accordingly, Applicants respectfully request that the obviousness rejection with respect to Claims 1-2, 4-6, 11-12, 14-16 and 18-27 be reconsidered and the rejection be withdrawn.

For the foregoing reasons, Applicants respectfully request reconsideration of the above-identified patent application and earnestly solicit an early allowance of same.

Respectfully submitted,

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